

Isokinetic Strength Testing

For Athletes



What does this machine do?

An isokinetic machine can take objective strength measurements of selected body part such as shoulders and knees, which can be a useful tool in identifying injury risk factors and their performances. For example, past studies have identified imbalance in strengths (side to side/agonist to antagonist difference) as a risk factor for potential injuries in athletes. For example, baseball pitchers, who have a significant side to side strength deficit in their pitching arm and who have significant imbalance between chest muscles and back muscles, tend to have pitching-related injuries in the future.



What do we look at?

Dominant vs non-dominant limb strength

The dominant upper extremity may be stronger than the non-dominant side. However, there should not be a significant strength difference in the lower extremities based on the past studies. We look at and look for any significant side to side deficits.

Front vs back muscle strength ratios

Each limb has agonist and antagonist muscles (front and back muscles). Usually, one is stronger than the other and that's normal. However, when the difference becomes too big, that could put those athletes in more risks of injury and decrease performance.

Other factors

Side to side difference in range of motion, poor proprioception, poor core stability, throwing mechanics, jump/landing mechanics, etc.

Isokinetic strength test results showing 20-30% deficit in the back muscles of dominant arm with no deficit in the front muscles. A deficit of more than 10% is considered "significant" in athletes and may predispose such athlete to an increased risk of injury, especially when combined with other risk factors. An intervention is suggested for those athletes.



Email Ted at FTKSportsMed@gmail.com to schedule.

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